



Proposed Landscaping for the Under-ground Modular Wetlands at Kanan Road in Oak Park

Presentation for
Oak Park Municipal Advisory Council

By
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Ventura County Public Works Agency



February 26, 2019

Outline

- ▶ Background
- ▶ Driving Factors
 - MS4 Permit & Total Maximum Daily Loads
 - Proposition 84 Stormwater Grant Program
- ▶ Oak Park Green Streets Urban Retrofit Project
 - Phase 1 – 10 modular wetlands (fall 2017)
 - Phase 2 – 10 modular wetlands (fall 2019)
 - Vegetated modular wetlands at Kanan Rd.
 - Project Schedule and Estimated Cost

Background

- ✓ Federal Water Pollution Control Act
 - “Clean Water Act” - 1972
- ✓ National Pollutant Discharge Elimination System (NPDES)
 - Municipal Stormwater (MS4) Permit
 - Total Maximum Daily Loads (TMDLs)



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Malibu Creek Watershed Total Maximum Daily Loads (TMDLs)

| TMDL | Effective Date | Promulgating Agency |
|-------------------------------|----------------|---------------------|
| Nutrients | March 21, 2003 | US EPA |
| Bacteria | Jan. 24, 2006 | LARWQCB |
| Trash | July 7, 2009 | LARWQCB |
| Benthic Community & Nutrients | July 2, 2013 | US EPA, LARWQCB |

LARWQCB – Los Angeles Regional Water Quality Control Board
 US EPA - U.S. Environmental Protection Agency



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Municipal Stormwater Permit

Cities and the County are required to

- Prohibit non-stormwater discharges **into** municipal storm drains or receiving waters (e.g., creeks, rivers, etc.);
- Eliminate discharges from municipal storm drain that cause or contribute to a violation of water quality limits; and
- Implement Total Maximum Daily Loads (TMDLs) requirements.



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Permit Enforcement

- Civil Penalties for Non-Compliance
 - Up to \$27,500/day
- Criminal Penalties for Non-Compliance

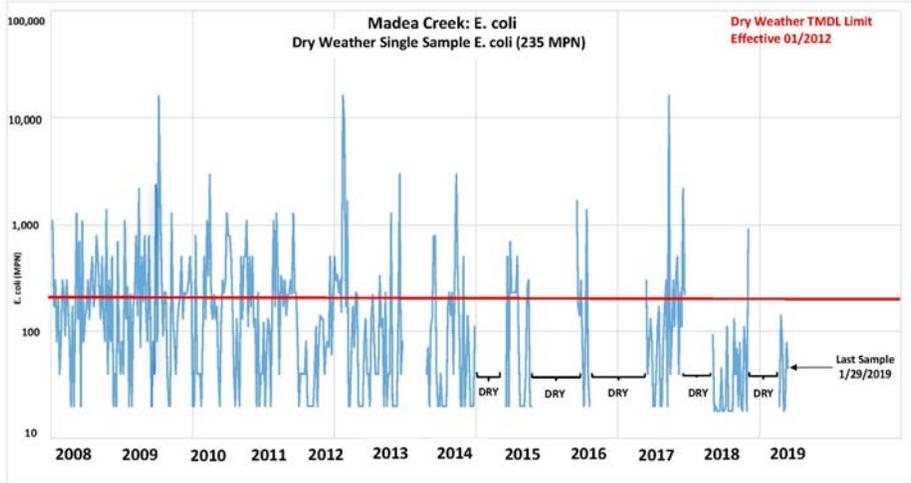


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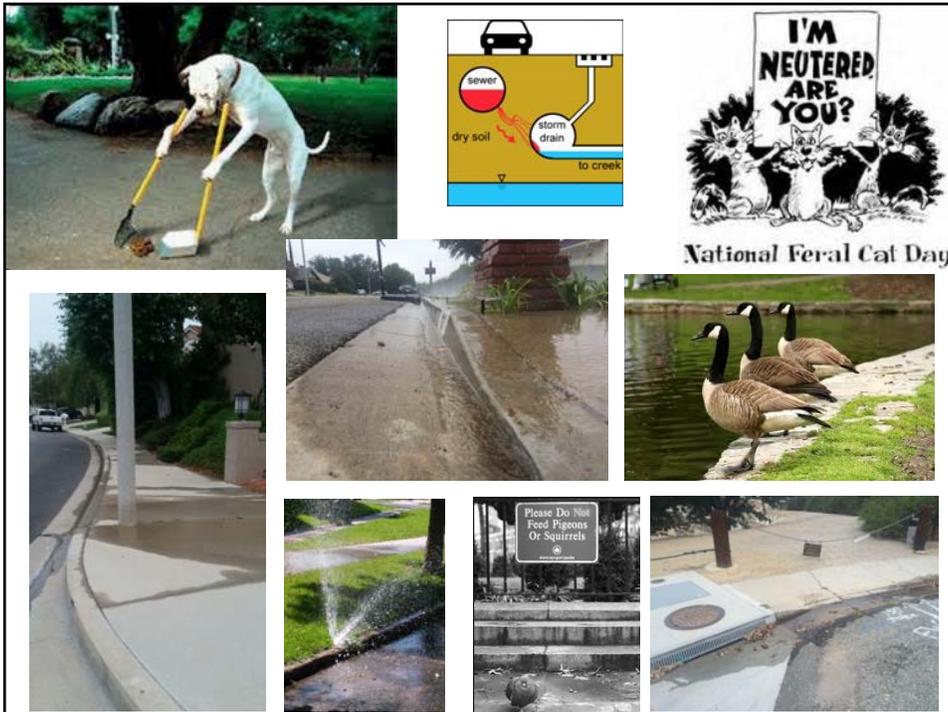
Medea Creek: *E. coli*



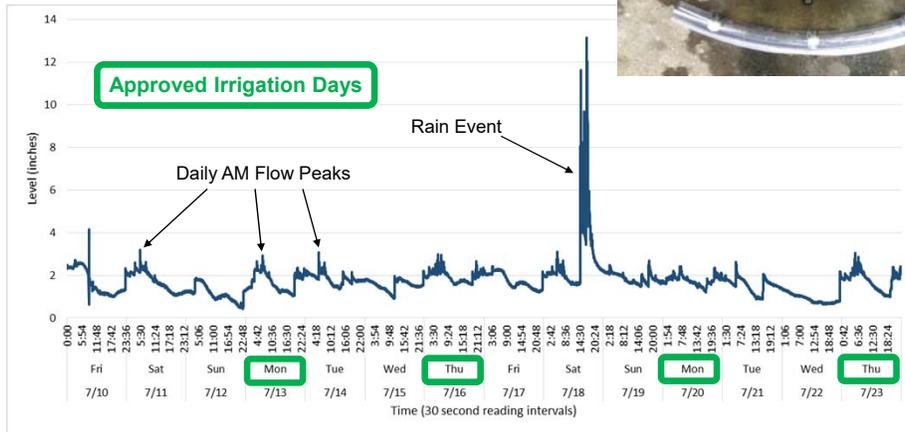
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July 2015 Flow Monitoring



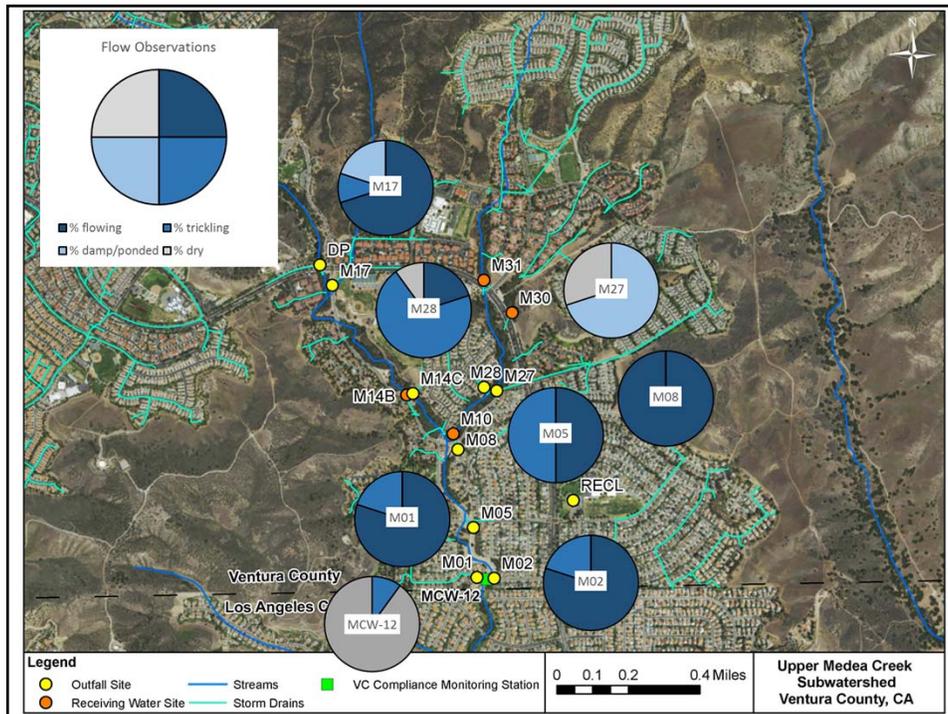
Example of flow monitoring data from outfall M01

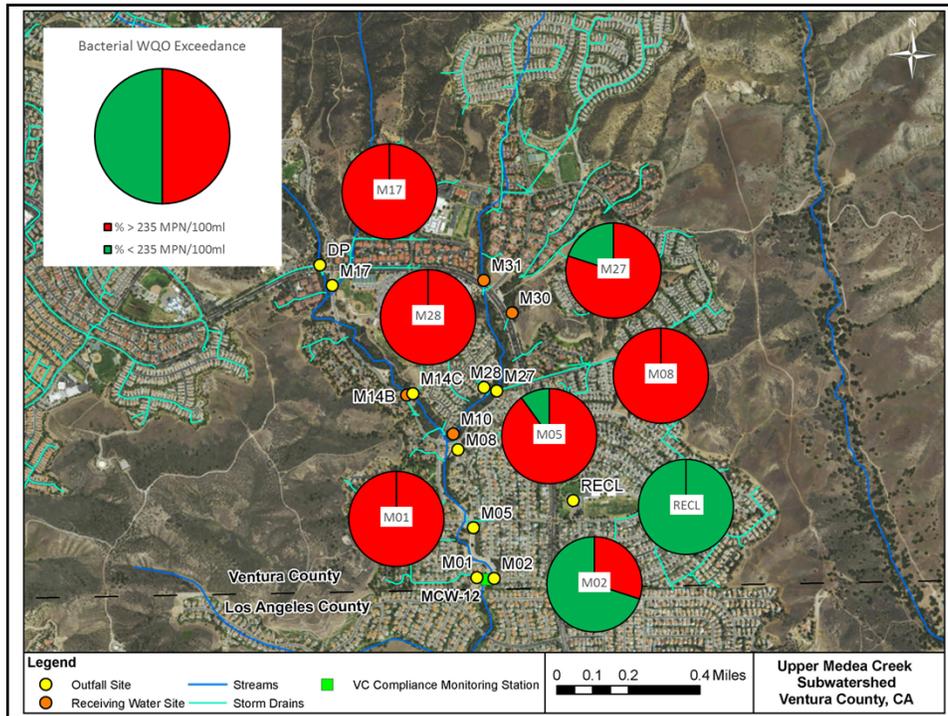


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County of Ventura's Oak Park Green Streets Urban Retrofit Project

- ▶ County of Ventura submitted Concept Proposal for "Oak Park Green Streets Urban Retrofit" project in October 2013.
- ▶ Project was one of 41 projects throughout the State selected to submit Full Proposal (February 2014).

| PIN | REG | APPLICANT NAME | PROJECT NAME | FUNDING AMOUNTS | | |
|-------|-----|---------------------|--|-----------------|------------|--------------|
| | | | | Prop 84 | Match | Total |
| 25938 | 3 | City of Santa Maria | City of Santa Maria Blosser Bioretention Project | \$ 1,954,150 | \$ 341,000 | \$ 2,295,150 |
| 25941 | 4 | County of Ventura | Oak Park Green Streets Urban Retrofit | \$ 1,397,410 | \$ 350,540 | \$ 1,747,950 |
| 25942 | 4 | County of Ventura | Urban LID Retrofit at Mainers Oaks | \$ 815,410 | \$ 204,350 | \$ 1,019,760 |

Funding for this project has been provided in full or in part through an agreement with the State Water Resources Control Board."



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Oak Park Green Streets Urban Retrofit

Project Phase I –

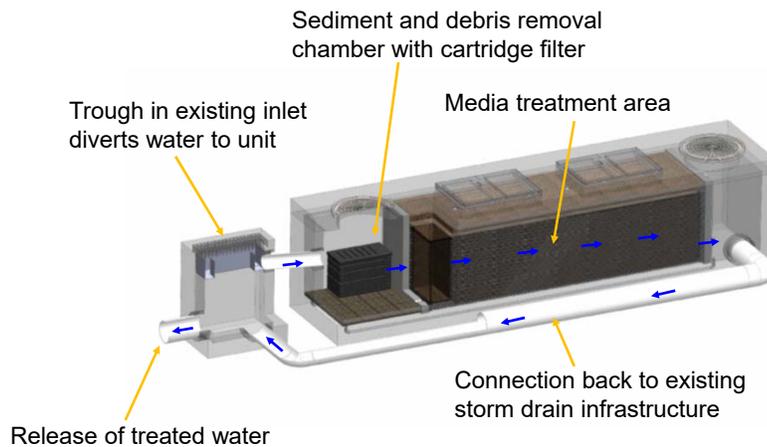
- 10 modular wetlands,
- Sites No.'s 1 - 10 (in yellow and orange);
- Completed in fall 2017.

Project Phase II -

- Additional 10 MWs,
- Sites No.'s 11 - 20 (in purple and blue);
- Scheduled for fall 2019



Modular Wetlands Pollutant Removal Process



Oak Park Green Streets Urban Retrofit Project - Modular Wetlands



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Installation in Oak Park Fall 2017



Examples of Completed Modular Wetlands in Oak Park, CA

Fall 2017



Site 5 - Sunny Vista Ave
(below Medea Creek Ln)
4' x 8' modular wetland in a parkway



Site 9 - Medea Creek Ln
(above Oak Hill Dr.)
4' x 13' modular wetland in sidewalk



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Oak Park Green Streets Urban Retrofit

Project Phase II:

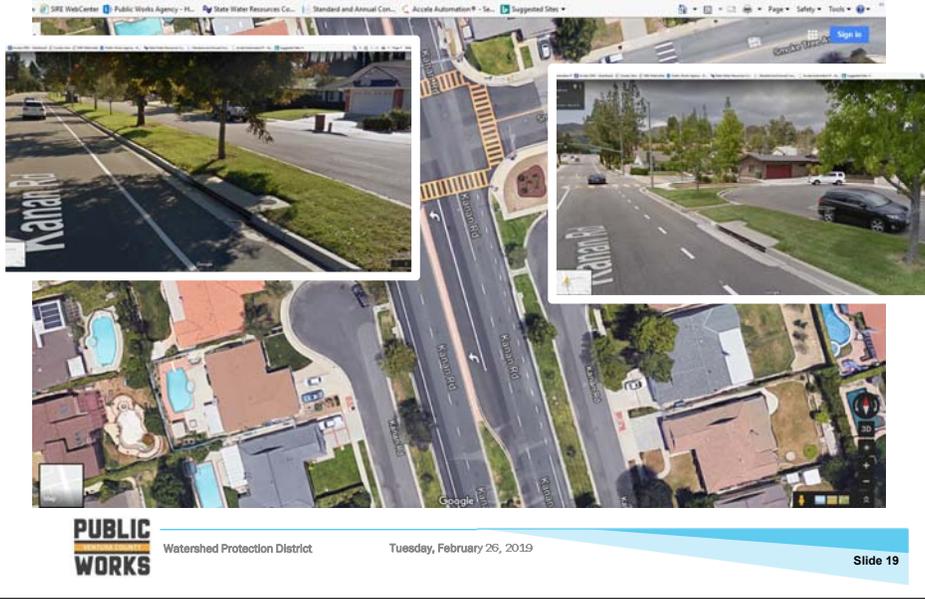
- ✓ Additional 10 modular wetlands,
- ✓ Site No.'s 11 - 20 including two vegetated units No.'s 19 and 20 in Kanan Rd (below Smoke Tree)



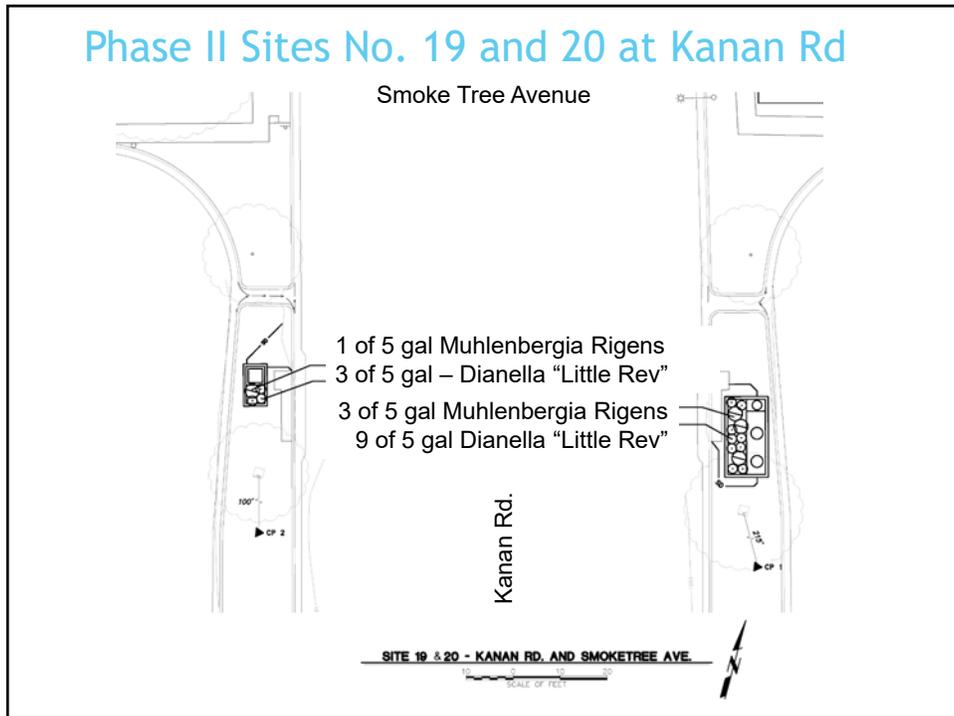
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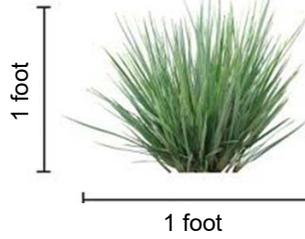
Phase II Sites No. 19 and 20 at Kanan Rd



Phase II Sites No. 19 and 20 at Kanan Rd



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Vegetated Modular Wetlands - Examples



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Phase II Project Schedule

- ▶ Completion of 100% design by March 31, 2019
- ▶ Construction winter 2019/2020 (ab. 3 months)

Construction Cost Estimate

Engineer's Estimate about \$650,000 (50% design)

Maintenance Estimate

- Frequency → 2-3 times per year
- Equipment = vactor truck and pressure washer
- \$18,000 / year



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Questions?

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